

# PATENT SPECIFICATION

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## (54) HANGER IN COMBINATION WITH BODY FLUID BAG

(71) We, H. G. WALLACE LIMITED, a British Company, of Chandlers Row, Port Lane, Colchester, Essex CO1 2JP, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to body fluid bags and hangers in combination.

Body fluid bags are used to collect or administer body fluids. Usually such bags are connected by a flexible tube to a patient to enable fluid to flow into or out of the bag; the flow may take place under the influence of gravity or may be assisted by a pump.

A major problem in fluid collection, particularly in urine drainage in which a tube is inserted in the body, is the supporting of the drainage bag in a conventional and secure manner. When the patient is in bed, it may be convenient to suspend the bag from a bedrail and various devices for achieving this have been proposed. For example, a wire hanger may engage the bedrail at the top and hook into preformed holes or slots in the bag at the bottom. Alternatively, separate straps or cord or plastics hangers may be used.

However, it is sometimes found that a bed has no bedrail providing a convenient attachment joint. Further, a patient may sometimes sit in a chair whilst still connected to a drainage system and he will then generally be in a lower position than when in bed.

According to the invention, there is provided a body fluid bag and hanger combination in which the hanger comprises a frame adapted to stand on a horizontal surface in two alternative stable orientations, the frame comprising two bag suspension portions located at or near respective opposite ends of the frame and which selectively operatively engage with suspension means on the bag whereby it may be suspended from said positions in said respective alternative orientations, the arrangement being such that in a first of said

orientations the uppermost and operative suspension portion is located from said surface a greater distance than is the other suspension portion when it is uppermost and operative in a second of said orientations, so as to suspend the bag at two different levels above the surface.

The use of such a bag and hanger combination removes the need for a number of different hangers for body fluid bags and can suspend a bag above the floor at the required two levels.

The body fluid bag may be made of a flexible plastics material having straps formed integrally therewith. The provision of such a hanger and bag may permit the bag to be suspended from a bedrail if desired or alternatively suspended above the floor at a suitable height for a patient in a bed or in a chair.

Preferably the bag is made by welding together two sheets of flexible plastics material. Some of the welds may define weak tear lines whereby the straps can be partially released from the rest of the bag for attachment to a bedrail or the like. The bag may also define a pocket between the two sheets into which is inserted a stiffening rod, preferably in the form of a rigid plastics tube. The stiffening rod may serve as a carrying handle or may be attached to the hanger. In particular, the suspension portions of the hanger may be adapted to receive the stiffening rod.

An embodiment of the invention will now be described by way of example and with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a hanger according to the invention;

Figure 2 is a side view showing the hanger of Fig. 1 in a first or higher position;

Figure 3 is a side view showing the hanger of Fig. 1 in a second or lower position;

Figure 4 is a perspective view showing the hanger of Fig. 1 in use in supporting a body fluid bag in the higher position;

Figure 5 is a perspective view showing

the hanger of Fig. 1 in use in supporting a body fluid bag in the lower position;

Figure 6 is an elevation showing in more detail the bag of Figs. 4 and 5; and

5 Figure 7 is a plan view of the bag of Fig. 6;

Referring to the drawings, the hanger 1 comprises an open framework of plastics-coated steel wire. The hanger includes a 10 strengthening wire 2 and is welded at points 3. The framework includes two generally coplanar elongate wire elements 4 which define lines of support for a body fluid bag as will be described with reference to 15 Figs. 4 and 5. Adjacent the ends of the elements 4 are generally U-shaped portion 5 and 6 for engaging a body fluid bag. The portions 5 are closer together than the portions 6.

20 As may be seen in Figs. 2 and 3 the hanger 1 may stand on a floor in two alternative stable positions. In the first position shown in Fig. 2, the portions 5 are at a higher level than the portions 6 and in the 25 second position shown in Fig. 3 the portions 6 are at a higher level than the portions 5. It may be seen that the U-shaped portions 5 in the first position are at a higher level than the U-shaped portion 6 in the second position and hence that the 30 hanger 1 provides two levels of support for a body fluid bag suspended from the upper U-shaped portions. The hanger 1 may stand on a floor in the first position 35 when the patient is in bed and in the second position when the patient is in a chair. The hanger is of generally triangular configuration and provides only two usable stable positions with the portions 5 or 6 40 supported above the floor. This helps to avoid uncertainty about the placement of the hanger on the floor.

The manner in which a body fluid bag 10 may be supported by a hanger 1 will now be described with reference to Figs. 4 to 7. Referring first to Fig. 6, the bag 10 45 comprises two sheets of flexible plastics material, such as polyethylene or plasticised polyvinylchloride, cut to the shape shown and welded together where indicated 50 by double lines, such as at 21. If the bag is to be used for administering body fluids it will, of course, be made of completely non-toxic material and be sterilised. The 55 bag defines a portion 12 for containing fluid between the two sheets and a tube 13 communicates with the portion 12 via a larger tube 14 welded to the tube 13 and to the two sheets. If desired, the tube 14 may 60 be fitted with a valve. A drain tube 15 fitted with a tap 16 may also communicate with the portion 12.

A pair of straps 17 are formed integrally with the rest of the bag 10 and connected 65 to the portion 12 along tear lines 18. Each

strap 17 is provided with eyelets 19 adapted to receive studs 20. The integral straps 17 provide a particularly convenient means of supporting the bag 10. They may, for example, be looped around a bedrail as indicated at 21. The stud and eyelet fixing 70 may of course be replaced by other mechanical or chemical fixing means, such as buckles, integral hooks or adherent surfaces. 75

At the top of the bag 10 are two pockets 22 formed between the two sheets of the bag; one sheet is provided with a slit 23 which enables the insertion of a stiffening 80 rod 24, such as a plastics tube, into the pockets 22. The rod 24 can serve as a carrying handle and is used to suspend the bag from the U-shaped portions 5 and 6 of the hanger 1 when the bag 20 is supported on the hanger 1. 85

Another pocket 25 near the top of the bag is provided with a slit 26 venting the pocket 25 to atmosphere. This enables the container portion 12 to be vented via a 90 filter element 27.

Another pocket 28 is provided with a hole 29 in one of the sheets of the bag for storage of the drain tube 15 as shown in Fig. 4. The bag may be provided with 95 markings 30 formed by welding or printing for indicating the approximate volume of the contents of the bag.

If desired the bag 10 may be formed with only a single integral strap or more than two straps may be provided. In other 100 possible modifications, the position of the inlet and drainage tubes 13 and 15 may be altered or the drainage tube 15 may be omitted. Urine drainage bags are often destroyed when full and in this case a drain- 105 age tube is unnecessary.

Referring now to Fig. 4, the bag 10 is shown supported in its higher position on the hanger 1. The U-shaped portions 5 engage the rod 24 where it is exposed adjacent the tube 14 and the container portion 12 rests on the elements 4. 110

In the lower position shown in Fig. 5, the portion 12 again rests on the elements 4 but the U-shaped portions 6 engage the 115 pockets 22 containing the rod 24 adjacent the points at which the straps 17 are connected to the rest of the bag. It is of course necessary to break the tear lines 18 at this point, such as by separating the edge of 120 each strap from the portion 12.

#### WHAT WE CLAIM IS:

1. A body fluid bag and hanger combination in which the hanger comprises a frame adapted to stand on a horizontal 125 surface in two alternative stable orientations, the frame comprising two bag suspension portions located at or near respective opposite ends of the frame and which selectively operatively engage with 130

suspension means on the bag whereby it may be suspended from said portions in said respective alternative orientations, the arrangement being such that in a first of  
5 said orientations the uppermost and operative suspension portion is located from said surface a greater distance than is the other suspension portion when it is uppermost and  
10 so as to suspend the bag at two different levels above the surface.

2. A bag and hanger combination as claimed in claim 1 in which the frame comprises an open wire framework.

15 3. A bag and hanger combination as claimed in claim 2 in which the framework is made of plastics-coated welded steel wire.

4. A bag and hanger combination as  
20 claimed in claim 2 or 3 wherein the wire is bent into a generally U-shape to define each respective said suspension portion.

5. A bag and hanger combination as  
25 claimed in claim 4 including two generally coplanar elongate wire elements and four generally U-shaped suspension portions, the U-shaped portions being provided adjacent

the ends of the wire elements.

6. A bag and hanger combination as claimed in claim 5 wherein the U-shaped  
30 portions at the upper ends of the wire elements in one of the orientations are closer together than the U-shaped portions at the lower ends of the wire elements.

7. A bag and hanger combination as  
35 claimed in any preceding claim in which the body fluid bag is made of a flexible plastics material having straps formed integrally therewith.

8. A bag and hanger combination as  
40 claimed in claim 7 wherein the bag includes a stiffening rod and the suspension portions of the hanger are adapted to receive the stiffening rod.

9. A hanger in combination with a body  
45 fluid bag, substantially as hereinbefore described with reference to Figs. 1 to 7 of the accompanying drawings.

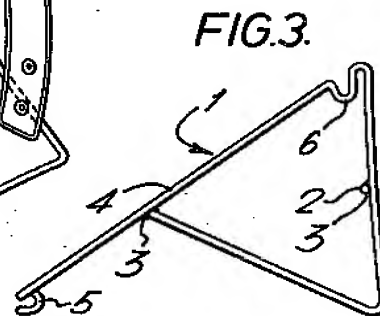
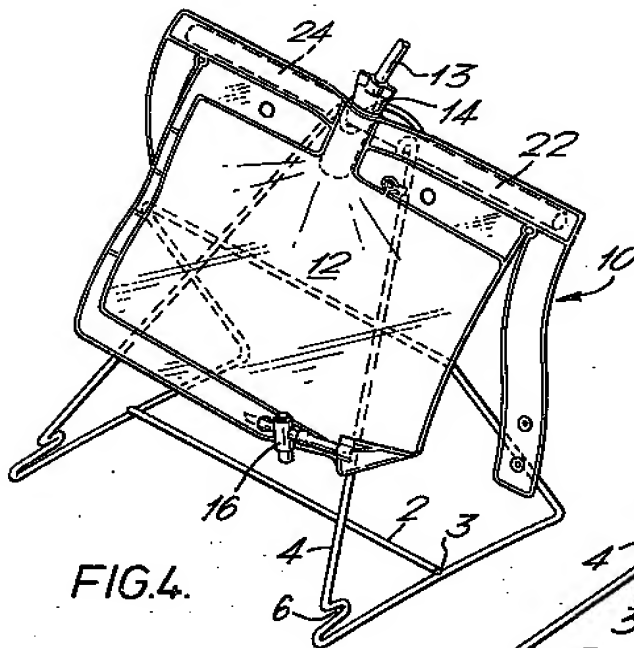
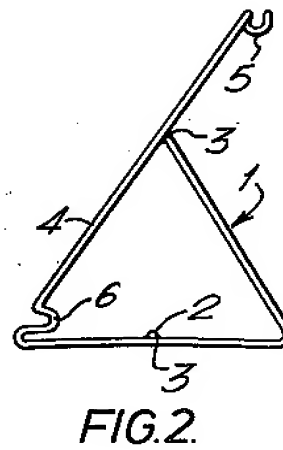
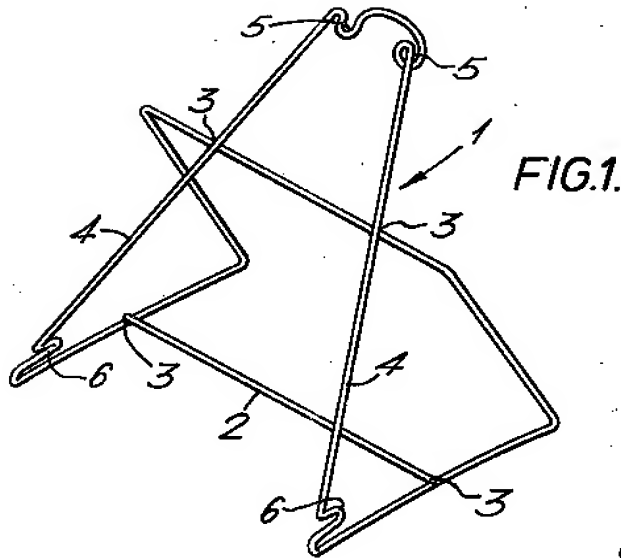
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2 SHEETS

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Sheet 1



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